



Fermilab

BEAMS DIVISION/CRYOGENIC SYSTEMS  
ENGINEERING and DESIGN GROUP

## **Minutes from Friday, Nov 2 Muon Collider/Cryogenics Meeting**

Place: Outfield Conference Room, MW9

Attendees: Milorad Popovic, Alex Martinez, Barry Norris, Christine Darve, Arkadiy Klebaner, Del Allspach, Bill Luebke, Dan Kaplan, Ed Black

Minutes Prepared by: Barry Norris

1. The meeting started with Barry stating that it was necessary for the Cryo engineers to understand the 11 cm absorber design in the physical sense, the nozzle configuration, its' placement inside of the Lab G solenoid etc. Only when these issues are resolved can the real design begin in earnest of the exchanger, vacuum vessel, and so on.
2. After this opening statement, Dan Kaplan stated that the first test cryogenically was to be on a 15cm absorber and not on the future 11cm. Volume would be the same but radius significantly different. This device would NOT reside in solenoid. Further, Ed Black and Dan spoke of a cryostat being built in Japan that would house this absorber for testing. As far as the cryo group can recall, this is the first time we have known of this possibility or any 15 cm device.

***There was a tremendous amount of back and forth related to this issue. Aspects of safety, discussion of cryo working on 2 different designs, the idea of convective heat exchange and so forth.***

***Barry suggested that the overall schedule may drive the decision to work with a 15 cm device. Arkadiy asked repeatedly about the benefits of a 15 cm test.***

***At the end of the meeting it was stated by Dan, that he and Ed would have to have a discussion with Steve Geer to resolve the direction.***

3. Christine asked and received directions on getting as many of the assembly drawings as possible. What has been drawn resides in AutoCAD. The Cryo engineers would like to receive as many details as possible, specifically with the nozzle arrangements.
4. Del Allspach states that convective methods would reduce the volume of hydrogen needed and thus we shouldn't just dismiss this future possibility.
5. End of meeting: Cryo will look at 11 & 15 cm geometries. We need to understand pressure drop and relieving scenarios. Further cryo needs a decision on whether to pursue a 15cm design. What is our next step?

**THE NEXT MEETING IS FRIDAY, NOVEMBER 9 at 10:30 am – MW9.**